

KODIAK MANAGEMENT AREA  
HERRING SAC ROE FISHERY HARVEST STRATEGY,  
FOR THE 2004 SEASON



By

Dennis Gretsch

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Alaska Department of Fish and Game  
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## **ABSTRACT**

This report presents information concerning how the Alaska Department of Fish and Game (ADF&G) will manage the 2004 Kodiak Management Area (KMA) commercial herring sac roe fishery. This report also presents the guideline harvest levels (GHLs) by section, reporting and registration requirements, and a regulatory summary pertaining to this fishery.

The 2004 KMA area-wide GHL is 2,550 tons and GHLs have been established for 35 sections. Sections are assigned to either purse seine and gillnet gear. Sections with a combined GHL of 1,925 tons have been assigned to purse seiners and sections with a combined GHL of 625 tons have been assigned to gillnetters.

In certain sections, the 2004 purse seine fishery will be managed differently than in previous years. Purse seine fisheries in the Paramanof Bay and Village Islands Sections will be managed to enhance the value of the landed product and control harvest rates. Fishing periods will be established by emergency order, herring will be sampled by purse seine test sets, and time and area restrictions may be used to target these fisheries on herring of the largest size and highest roe content.

Management of the gillnet fishery remains mostly unchanged, although the department will manage the Danger Bay Section more actively in 2004, to ensure the harvest does not exceed the GHL.

## **INTRODUCTION**

This document presents information concerning the management of the 2004 Kodiak Management Area (KMA) Pacific herring sac roe fishery by the Alaska Department of Fish and Game (ADF&G). This report also presents the guideline harvest levels (GHLs) by section, reporting and registration requirements, and a regulatory summary pertaining to this fishery.

The KMA herring sac roe fishery has occurred annually since 1964, and the harvest has averaged 1,916 short tons (1964 to 2003; Table 1). From 1994 to 2003 the annual harvest averaged 2,756 tons, ranging from a low of 1,370 tons in 2000 to a high of 5,893 tons in 1994. GHLs are established by the department annually, and have ranged from a low of 1,495 tons in 1999 to a high of 4,550 tons in 1994 (1994 to 2003; Table 2).

This fishery was open-to-entry from 1964 to 1980, under a moratorium to new entries from 1981 to 1984, and has been designated a limited entry fishery since 1985. Gear for this fishery includes purse seine and gillnet. In 2000, an allocative harvest strategy was implemented by the Alaska Board of Fisheries (BOF) to provide opportunities for gillnet permit holders to harvest approximately 25% and purse seine permit holders to harvest approximately 75% of the total preseason GHL. Separate gear areas are required as part of the strategy.

The 2003 fishery GHL was 2,600 tons, and 31 purse seine and 11 gillnet permit holders participated to harvest 1,992 tons. Purse seine gear harvested 1,738 tons (87%) and gillnet gear harvested 254 tons (13%), with a total exvessel value of \$996,000 dollars (Table 2). The 2004 KMA harvest forecast is 2,550 tons, which represents approximately 4.9% of the projected statewide herring sac roe harvest of 52,088 tons (Table 3).

## **GENERAL HARVEST POLICY**

This commercial fishery is intended to occur in an orderly fashion, with minimal waste of the resource, and within conservation limits determined by the department. In addition, the fishery will be managed in accordance with general statewide herring guideline harvest policies, which provide for catches in traditional inshore areas, management for the greatest value, and exploitation (harvest) not to exceed 20% of the available spawning biomass.

## **FISHERY MANAGEMENT**

### ***Districts and Sections***

The KMA is divided into 13 districts that define geographical areas used in managing the herring sac roe fishery. Each district is further divided into smaller areas called sections; there are a total of

82 sections in the KMA (Figure 1). Sections are intended to define the spawning area used by a stock of herring or to define a geographical harvest location. Since 1979, herring have been harvested within 63 sections. Statistical charts, which illustrate districts and sections, are available at the Kodiak ADF&G office.

### ***Guideline Harvest Levels***

After an annual review of stock status trends for the entire KMA, the department determines which sections will be open to commercial fishing. Each section's GHL is set based on the following information: 1) fishery performance during the preceding season or seasons (e.g., harvest timing, harvest duration, average school size), 2) trends in age composition, 3) spawn and juvenile herring observations, 4) aerial surveys, and 5) hydroacoustic surveys.

For the 2004 season GHGs have been established for 35 sections. A total of 15 sections have had little or no harvest during the last 10 years, and have been designated as exploratory in 2004 (exploratory areas are open to both gear types and have no set GHG). Consideration will be given to opening the Inner Uyak Section to purse seining in 2004, however a GHG can not be established unless the spawning biomass can be assessed and the fishery managed by department biologists on the grounds. The remaining 31 sections will remain closed, based on either low stock abundance or no historical record of herring sac roe harvest. GHGs are not guaranteed quotas, and the actual harvest may exceed or fall short of these projections.

### **EXCLUSIVE GEAR SECTIONS**

In 2000, exclusive gear sections (purse seine and gillnet) were first assigned. The department examined historical harvest timing by district to give each gear group opportunities for harvesting early and late spawning herring stocks. Gear section assignments were also based on historical gear harvests by section, fishery manageability concerns (smaller herring stocks and GHGs are often assigned to gillnetters), and the mathematics of the allocation percentages.

The total 2004 KMA GHG is 2,550 tons, of which 1,925 tons (75.5%) is assigned to purse seiners and 625 tons (24.5%) is assigned to gillnetters (Table 4, Figure 1). The stock status in several sections changed, resulting in changes in section GHGs for the 2004 season. Several sections have also had changes in gear status or have been designated as exploratory.

The department has also reopened several sections for the 2004 season that have been closed to fishing in recent years. In these sections, a notable increase in herring abundance has been documented, which warrants assignment of small GHGs (10 to 20 tons) or designation as exploratory. Opening these sections serves as a commercial test fishery to confirm or disprove the department's assessment. These sections include: Perenosa Bay, Spiridon Bay, Tanginak Anchorage, North Upper Olga Bay, and, depending on observed biomass, Inner Uyak Bay.

The allocation plan directs assignment of sections to a gear type so that, for each district, from 20% to 30% of the GHL is assigned to gillnet permit holders and 70% to 80% to purse seine permit holders. Due to the variable number of sections per district and the variable GHLS by section, the district allocation percentages for purse seiners range as high as 78.4% for the Uganik District to a low of 71.4% in the Alitak and Inner Marmot Districts. For allocation purposes, the 3 Mainland Districts are considered as one, and the three Afognak Districts are also considered as one. In the Northeast District and Uyak District, only one or two sections may be opened to fishing, with small GHLS (50 tons total). In these districts, 100% of the GHLS are assigned to gillnet gear.

## **PURSE SEINE FISHERY MANAGEMENT**

The department will be managing certain sections of the purse seine fishery differently within the KMA, based on the size of the GHLS, anticipated effort levels, and the spawn timing of the different stocks. Due to limited ability to monitor and manage all sections, opening some sections will be delayed beyond the standard April 15 fishery opening date.

### ***Paramanof Bay and the Village Islands Sections***

Kodiak Area Management Biologists will actively manage the Paramanof Bay and Village Islands Sections fisheries in 2004 to enhance the value of the landed product and control harvest rates. Both sections have relatively large spawning biomasses, early spawn timing, and generally experience high effort levels. Also, large numbers of small, recruit-age herring may be present in these fisheries. Combined, these two sections comprise 55% of the total KMA purse seine GHL in 2004. These sections will be managed from ADF&G vessels, with the R/V Resolution in the Paramanof Bay Section and the R/V K-Hi-C in the Village Islands Section.

The department will attempt to manage these two sections as directed in 5 AAC 27.059. Management Guidelines For Commercial Herring Sac Roe Fisheries:

- (a) if the department has adequate information, and if department management programs are in place, the department may manage commercial herring sac roe fisheries, to enhance the value of the landed product as follows:
  - (1) fishing periods may be established by emergency order in areas and during times when sampling has demonstrated, or when other factors indicate, that the herring roe content of the catch is likely to be the highest;
  - (2) fishing periods may be established by emergency order in areas and during times when sampling has demonstrated, or when other factors indicate, that the catch is composed of the maximum average size of herring available for the stock;
  - (3) in a preseason management plan, the department shall specify the particular herring fisheries that are to be managed to enhance the value of the landed product.



(b) The department may modify herring sac roe fishing periods and areas to minimize the harvest of recruit-sized herring during the conducting of a sac roe fishery that targets post-recruit herring.

The department, fishermen, and buyers will need to work closely together to control harvest rates and target high quality roe herring. Test seine sets prior to any fishery openings will allow sampling for fish size and roe maturity. Management biologists will seek volunteer purse seine fishermen to conduct the test sets. Department staff will not conduct roe recovery testing; industry personnel will be expected to determine roe recovery. In general, 10% mature roe recovery is the industry standard, and there has been a difference (a decrease) between on-the-grounds roe testing and roe testing at processing facilities in Kodiak of approximately 1% (a reduction of roe quality). Additionally, processors establish minimum size requirements (average weights) that they will purchase, which range from 130 to 140 grams. Management biologists will attempt to manage the fisheries so the industry size requirements are met or exceed. Test fishery results will be broadcast on VHF channel 6, as they become available.

When marketable herring are found, if overharvest concerns exist, the department will, as necessary, use emergency order authority as a harvest control by limiting the duration of fishing periods and/or the specific portion of a section that may open. As much advance notice as possible will be given prior to any potential fishing periods. Fishing periods in actively managed sections may be short (i.e., 10 minutes), followed by a closed period to allow time to assess the harvest before allowing additional fishing. Emergency order announcements, concerning opening time, fishing period duration, and open areas within a section, will be made on VHF channel 6. Potential fishing periods will only occur during daylight hours and likely will not occur before 9:00 AM or later than 6:00 PM daily.

### ***Inner Uyak Bay Section***

In 2002 and 2003, a large herring biomass was observed in the Inner Uyak Bay Section of the Uyak District that exceeded the department's minimum spawning biomass recommendations for this section. An industry spotter obtained a small sample of these herring in late April 2003. That sample indicated these fish were of mixed age classes consisting of 4, 5, and 6 year old herring.

The department will consider opening this section to purse seine fishing in 2004, by emergency order, based on aerial and/or hydroacoustic biomass assessment and sample herring quality. Industry's support may be needed to evaluate the available biomass and roe maturity prior to any potential opening of the fishery. A limited fishery may be allowed and a GHL will be established inseason based upon the observed biomass. If the estimated biomass is below 800 tons, or if samples indicate the biomass consists primarily of younger age class herring (age-3 or younger), no fishery will be allowed.

A management biologist must be on the grounds in the Inner Uyak Section prior to any potential fishery, aboard a department vessel, chartered vessel, or volunteer vessel. The R/V Resolution or the R/V K-Hi-C will only be available after either the Paramanof Bay or Village Islands Sections

are closed for the season. After the Paramanof Bay or Village Islands Sections close, one of the department vessels and staff may be available to move to the Inner Uyak Bay Section to assess the biomass and manage the fishery. Funding for a chartered vessel is uncertain. A test fish program is proposed to generate funds for herring fishery management and research. Vessels that may wish to volunteer for assessment and management of Inner Uyak should contact ADF&G management staff.

Potential fishing periods could occur within 24 hours after a management biologist is on the grounds. A news release would be issued at least 24 hours in advance of opening this section to fishing. The observed biomass and effort level would determine management of the fishery. There would likely be short fishing periods with only portions of the Inner Uyak Bay Section opened, to control harvest rates. Potential fishing periods would only occur during daylight hours and likely would not occur before 9:00 AM or later than 6:00 PM.

### ***Outer Uyak Bay Section***

Opening the herring fishery in the Outer Uyak Bay Section will be delayed until a field crew can be stationed in Saltery Cove to monitor the fishery. A news release will be issued at least 24 hours in advance of opening this section to fishing. This section is known to have later spawning herring and will likely open during the first week in May. Assistance from tenders and fishing vessels is encouraged to help move a management crew to Saltery Cove or into Kodiak after the fishery has closed. Fishing periods for this section will be as stated in 5 AAC 27.510 (see below). Fishermen are strongly encouraged to test catches prior to landing to harvest the highest value product.

### ***Remaining Purse Seine Sections and Exploratory Sections***

Exploratory sections are open to both gear types although fishing periods by gear type differ. For most purse seine sections and all exploratory sections, fishing periods for purse seiners will be as in 5 AAC 27.510. Fishing Seasons and Periods for Kodiak Area:

(a) Herring may be taken during the sac roe season from April 15 through June 30 as follows:

- (1) from April 15 through May 7, fishing periods for purse seines are from NOON until 9:00 PM on odd-numbered days, and from 9:00 AM until NOON on even-numbered days, if a harvestable surplus is available. From May 8 through June 30 fishing periods for purse seiners are from NOON until 10:00 PM on odd-numbered days, and from 9:00 AM until NOON on even-numbered days, if a harvestable surplus is available.

Management of the herring sac roe fishery relies primarily on harvest data collected by department field crews. Timely harvest information is essential to fishery management. Permit holders and tender operators are encouraged to keep ADF&G field crews aware of herring harvests. In

exploratory sections and all sections where a field crew is not present, if a harvest does occur, fishermen, tenders, or buyers should immediately contact area management biologists in Kodiak. Cooperation between the department, the purse seine fleet, and buyers has been very good, and it is hoped that this will continue. If cooperation is lacking, closure of sections for the remainder of the 2004 season may occur, and any future exploratory section openings will be reevaluated. Fishermen are strongly encouraged to test catches prior to landing to harvest the highest value product.

## **GILLNET FISHERY MANAGEMENT**

Management of the gillnet fishery is also dependent upon timely catch information provided by processors and permit holders. Gillnet participation is at low levels. On-the-grounds fisheries monitoring in gillnet sections is limited, and may be only incidental to monitoring efforts that occur in adjacent purse seine sections. Fishing periods for gillnetters, within gillnet only designated sections and exploratory sections, will be as in 5 AAC 27.510. Fishing Seasons and Periods for Kodiak Area:

(b) Herring may be taken during the sac roe season from April 15 through June 30 as follows:

- (1) from April 15 through June 30, the fishing periods for gillnets are from NOON on odd-numbered days until NOON on even-numbered days.

There will be a 24-hour closure between fishing periods. If the department has concerns about overharvest or if cooperation with catch reporting is lacking, the duration of fishing periods will be reduced by emergency order.

### ***Inner Ugak Bay and Pasagshak Bay Sections***

Opening the Inner Ugak Bay and Pasagshak Bay Sections will be delayed until a field crew can be stationed in Ugak Bay to monitor the fishery. A news release will be issued at least 24 hours in advance of opening this section to fishing. These sections are known to have later spawning herring and will likely open during the first week in May.

### ***Danger Bay Section***

The department will more conservatively manage the gillnet fishery in the Danger Bay Section in 2004. During the last two seasons, the harvest in this section has greatly exceeded the GHL. Catch reporting by the gillnet fleet has been poor for this section. The Danger Bay Section will be allowed to open on April 15. However, depending on the initial catch rates and the cooperation of participating permit holders, there may be inseason restrictions in fishing periods for this section, such as daylight only fishing periods.

## **CATCH REPORTING**

Processors and independent tender operators are required to provide timely, daily catch reports by section. Herring on board tenders that have not yet been delivered to a processing facility must also be reported. Timely and accurate harvest reports received from department field crews, permit holders, tender operators, spotters, and processors are critical in the assessment of herring harvests and guide management of the fishery. Inaccurate or late information could result in premature area closures or severe overharvest.

## **EMERGENCY ORDER ANNOUNCEMENTS**

Once the preseason GHL for a section has been achieved or approached, that section will be closed for the remainder of the season. Due to the rapid pace of harvest in certain locations, inperiod closures are likely. When inperiod closures are necessary, there may be no more than five minutes advanced notice prior to the closure time. Inperiod closures will be announced on VHF channel 6. Fishermen and tender operators are urged to monitor VHF channel 6, to remain aware of section closures.

At any time during the season, if the department determines that herring stock abundance is below preseason expectations, sections may be closed prior to reaching their GHL.

Harvest Strategies for Kodiak, 5 AAC 27.535., state that an entire district shall be closed, by gear type, once its gear specific district GHL has been achieved. Adjustments in management may also be made inseason, based on changes in fish behavior or harvest patterns.

A news release will be issued to announce fishery decisions (openings, closures, area restrictions, etc.). News releases are distributed to processors, local radio stations and newspapers, and other interested parties. Contact an Area Management Biologist to be put on an email distribution list for herring news releases.

All permit holders, tender operators, and processors are responsible for staying updated on section closures as they occur inseason. To accomplish this:

- 1) Contact the herring management staff in the Kodiak office, in person, by telephone at 486-1830, on SSB frequency 3.230 MHz (call sign WON32 Kodiak Fish and Game), or using Matrix AlaskaNet Satellite Phone Dispatch at dispatch #7410.
- 2) Contact department field personnel on VHF Channel 6, on SSB frequency 3.230 MHz (call sign WNJI 929 Kodiak Fish and Game), or using Matrix AlaskaNet Satellite Phone Dispatch (R/V Resolution at dispatch #7411, and R/V K-Hi-C at dispatch #7412).
- 3) Contact any local herring processor for the latest Kodiak herring news release.
- 4) Call the department's 24-hour recorded message phone at 486-4559.

- 5) Obtain a copy of the most recent news release from the Kodiak ADF&G office at 211 Mission Road (copies are available 24 hours per day in a bin located outside the main entrance to the building).
- 6) Listen to the ADF&G reports broadcast over the local AM and FM radio stations (consult stations for broadcast times).

### **DEPARTMENT FIELD CREW/PERMIT HOLDER COOPERATION**

Department staff aboard state vessels and in remote tent camps (Table 5) will make frequent contacts with permit holders to collect harvest data, fleet movement information, spawn observations, and observations of juvenile and adult herring concentrations.

Permit holders and spotter pilots are encouraged to provide biomass estimates, juvenile herring observations, and spawn observations to the department field crews or management staff. Past cooperation has helped evaluate stock status and gain critical management information. All information from fishermen and spotters will remain confidential. Of particular interest is any observations of herring in closed management sections, and timely information will be used to direct department aerial or hydroacoustic surveys.

Samples from the commercial herring harvests need to be collected by ADF&G field crews and management biologists. Once again, industry cooperation is greatly appreciated. Department staff will also accept samples of juvenile herring. Samples are primarily used to monitor age composition and, when used with other stock performance indicators, will assist in determining stock status.

Changes in the 2004 management style will create additional responsibilities for the department management staff, enforcement staff, and fishery participants. Support and assistance from the industry is necessary for this style of fishery management to be successful. These changes should result in a more manageable fishery, greater economic benefit to the permit holders, and ensure the long-term health of the KMA herring stocks.

### **HERRING TEST FISHERY PROGRAM**

A herring test fishery program is proposed for the 2004 season, to generate funds to be used for Kodiak herring fishery management and research projects. The department will be requesting bids from processors and/or fishermen for the harvest and purchase of the herring. Contact the Area Management Biologists in Kodiak for more details.

## **ADDITIONAL REGULATIONS**

### ***Seine Specifications and Operations***

5 AAC 27.525. Seine Specifications and Operations for Kodiak Area.

(a) From April 1 through July 31, no purse seine shall exceed 18 fathoms stretch measure in depth or 100 fathoms in length. The depth shall be determined by using a stretch measure of the web from the corkline to the bottom of the net including any lines that hang below the lead line. (See regulation 5 AAC 39.975 (11) for the definition of stretched measure.)

(d) From April 1 through July 31, an Area K CFEC sac roe seine permit holder may only use the vessel identified on the permit to take herring, unless the permit holder has registered, in person at the Department's Kodiak office, to use a replacement vessel. Only one replacement seine vessel may be registered by a CFEC permit holder at a time.

### ***Gillnet Specifications and Operations***

5 AAC 27.050. Lawful Gear for Herring.

(c) Unless otherwise specified in this chapter, the mesh size of a herring gillnet may not be less than two and one-eighth inches or more than two and one-half inches.

5 AAC 27.520. Gillnet Specifications and Operations for Kodiak Area.

(a) The aggregate length of herring gillnets in use by a CFEC permit holder may not exceed 150 fathoms.

(b) The interim-use or entry permit holder must be physically present while the gillnet is being fished.

(c) Each drift gillnet in operation must have a buoy at one end and the opposite end must be attached to the fishing vessel. Each set net in operation must be anchored and buoyed at both ends. All buoys must be at least 10 inches in diameter and all buoys used on an individual gillnet must be of the same color. Each buoy must be plainly and legibly marked with the permanent vessel license plate number (ADF&G number) of the vessel operating the gear. The buoy may bear only a single number and this number must be that of the vessel used in operating the gear. The number must be painted on the top one-third of the buoy in numerals at least four inches in height, one-half inch in width and in a color contrasting to that of the buoy. The buoy markings must be visible on the buoy above the water surface. Set gillnets must have a buoy spaced every 25 fathoms along the net and the buoys must be floating on the surface of the water.

(e) From April 1 to July 31, a herring gillnet may not exceed 230 meshes in depth.

### ***Extra Time for Gillnetters***

5 AAC 27.520. Gillnet Specifications and Operations for Kodiak Area.

(d) Herring gillnets may remain in the water for four hours after the announced closing time for any opening of three hours or less of fishing time. No herring gillnet may be set or reset after a closure time. Herring gillnets may remain in the water up to four hours after an emergency closure if that closure is announced by the department less than three hours before the closure time. No herring gillnet may remain in the water past the NOON even-day closure time.

### ***Waters Closed to Herring Fishing***

5 AAC 27.530. Waters Closed to Herring Fishing in Kodiak Area.

(c) During the commercial herring sac roe fishing season, herring may not be taken in the waters of Women's Bay enclosed by a line from Shannon's Point (57° 43.80' N. lat., 152° 31.60 W. long.) to Nymans Peninsula (57° 43.30' N. lat., 152° 31.40 W. long.).

(d) During the period from April 15 through June 30, herring may not be taken in the following waters of Uganik Island:

- (1) south and west of a line from 57° 51.10' N. lat., 153° 13.53" W. long., to 57° 52. 12' N. lat., 153° 15.20' W. long.;
- (2) north of a line from 57° 49.37' N. lat., 153° 17.65' W. long., to 57° 49.47' N. lat., 153° 19.30' W. long.;
- (3) east of a line from 57° 50.85' N. lat., 153° 19.18' W. long., to 57° 49.43' N. lat., 153° 19.20' W. long.

### ***Herring Size Limits***

5 AAC 27.536. Size Limits for Kodiak Area.

A CFEC herring seine permit holder may not sell or have aboard a vessel any herring that were taken during the herring sac roe season if the number of individual herring per 50 pounds of net weight exceeds 250 fish (approximately 91 grams average weight).

To prevent waste, permit holders are encouraged to check with their markets prior to fishing to determine the acceptable minimum size/weight and roe percentages. All herring that are harvested during the sac roe season and sold as bait, or are discarded due to quality problems will be included as part of the total herring sac roe harvest and must be reported.

## ***Registration Requirements***

### **Tenders and Processors**

Each tender operator and each buyer must register with the Kodiak Area Management Biologists, at the Kodiak ADF&G office, either in person or through an authorized agent.

Registration must occur prior to taking fish on board the tender or taking fish at the processing plant.

Additional buyer and tender reporting requirements for Kodiak are listed within the 2003-2004 Commercial Herring Fishing Regulations, under 5 AAC 27.540.

### **Fishing Vessels**

There are no special registration requirements for gillnet vessels. There is only one registration requirement for seine vessels. A sac roe seine permit holder may use one vessel to take herring – either the vessel identified on the holder’s permit or a registered replacement vessel (5 AAC 27.525 (d)). If a sac roe seine permit holder intends to fish with a different vessel than is listed on their permit card, they must register the other vessel with Kodiak management staff.



Table 1. Historical harvest data for the commercial herring sac roe and food/bait fisheries and percent of the total annual herring harvest that occurs by fishery, Kodiak Management Area, 1964 to 2003.

Year	Sac Roe Fishery Harvest (Tons)	Food/Bait Fishery Harvest (Tons)	Total Herring Harvest (Tons)	Sac Roe Fishery Percent of Total Harvest (%)	Food/Bait Fishery Percent of Total Harvest (%)
1964	568	310	878	65%	35%
1965	657	35	692	95%	5%
1966	2,769	198	2,967	93%	7%
1967	1,662	300	1,962	85%	15%
1968	2,001	15	2,016	99%	1%
1969	1,130	11	1,141	99%	1%
1970	342	8	350	98%	2%
1971	284	44	328	87%	13%
1972	215	50	265	81%	19%
1973	831	178	1,009	82%	18%
1974	868	40	908	96%	4%
1975	8	5	13	62%	38%
1976	5	0	5	100%	0%
1977	338	0	338	100%	0%
1978	904	399	1,303	69%	31%
1979	1,735	125	1,860	93%	7%
1980	2,383	381	2,764	86%	14%
1981	2,065	18	2,083	99%	1%
1982	1,771	326	2,097	84%	16%
1983	2,318	33	2,351	99%	1%
1984	2,163	123	2,286	95%	5%
1985	1,968	102	2,070	95%	5%
1986	1,558	213	1,771	88%	12%
1987	2,146	217	2,363	91%	9%
1988	2,171	340	2,511	86%	14%
1989	2,249	345	2,594	87%	13%
1990	2,347	313	2,660	88%	12%
1991	2,432	215	2,647	92%	8%
1992	4,283	312	4,595	93%	7%
1993	4,929	837	5,766	85%	15%
1994	5,893	677	6,570	90%	10%
1995	4,604	507	5,111	90%	10%
1996	3,386	651	4,037	84%	16%
1997	3,235	756	3,991	81%	19%
1998	2,057	151	2,208	93%	7%
1999	1,651	0	1,651	100%	0%
2000	1,370	0	1,370	100%	0%
2001	1,694	115	1,809	94%	6%
2002	1,677	135	1,812	93%	7%
2003	1,992	199	2,191	91%	9%
Average					
1964 to 2003	1,916	217	2,134	90%	10%
5-Yr. Avg.					
1999 to 2003	1,677	90	1,767	95%	5%
10-Yr. Avg.					
1994 to 2003	2,756	319	3,075	91%	9%

Table 2. Herring sac roe fishery summary of season length, guideline harvest level (GHL), harvest data by gear type, percentage of harvest by gear type, number of landings, and estimated exvessel earnings, Kodiak Management Area, 1979 to 2003.

Year	Season Length (Days)	GHL (Tons)	Total Harvest (Tons)	Harvest by Gear Type		Percent Harvest by Gear Type		Number of Landings by Gear Type		Units of Gear Fished <sup>a</sup>		Average Catch by Gear		Estimated Average Earnings <sup>b</sup>		Price per Ton <sup>b</sup> (\$)	Estimated Exvessel Total Value <sup>b</sup> (\$)
				Seine	Gillnet	Seine	Gillnet	Seine	Gillnet	Seine	Gillnet	Seine	Gillnet	Seine	Gillnet		
				(Tons)	(Tons)	(Tons)	(Tons)	(Tons)	(Tons)	(Tons)	(Tons)	(Tons)	(Tons)	(\$)	(\$)		
1979	36	2,400	1,735	1,457	278	84%	16%	-	-	57	125	26	2	\$38,342	\$3,336	\$1,500	\$2,602,500
1980	35	2,400	2,383	2,009	374	84%	16%	-	-	92	109	22	3	\$15,068	\$2,368	\$690	\$1,644,270
1981	48	2,400	2,065	1,596	469	77%	23%	207	406	79	114	20	4	\$14,647	\$2,983	\$725	\$1,497,125
1982	59	2,400	1,771	1,447	324	82%	18%	138	191	45	67	32	5	\$17,686	\$2,660	\$550	\$974,050
1983	51	2,400	2,319	1,797	522	77%	23%	164	284	41	64	44	8	\$35,063	\$6,525	\$800	\$1,855,200
1984	54	2,400	2,163	1,691	472	78%	22%	138	212	39	69	43	7	\$34,687	\$5,472	\$800	\$1,730,400
1985	59	2,000	1,968	1,244	724	63%	37%	118	348	34	81	37	9	\$32,929	\$8,044	\$900	\$1,771,200
1986	61	1,690	1,558	1,110	448	71%	29%	132	385	31	71	36	6	\$34,016	\$5,994	\$950	\$1,480,100
1987	61	1,640	2,146	1,591	554	74%	26%	122	411	29	62	55	9	\$54,862	\$8,935	\$1,000	\$2,146,000
1988	59	2,065	2,171	1,304	867	60%	40%	169	555	33	76	40	11	\$51,370	\$14,830	\$1,300	\$2,822,300
1989	76	2,415	2,249	1,513	736	67%	33%	171	627	37	83	41	9	\$34,749	\$7,535	\$850	\$1,911,149
1990	75	2,375	2,347	1,644	703	70%	30%	156	544	27	63	61	11	\$51,756	\$9,485	\$850	\$1,994,950
1991	83	2,510	2,432	1,697	735	70%	30%	169	587	32	64	53	11	\$45,077	\$9,762	\$850	\$2,067,200
1992	77	2,720	4,283	3,260	1,023	76%	24%	185	706	40	74	82	14	\$40,750	\$6,912	\$500	\$2,141,500
1993	77	3,525	4,929	4,203	726	85%	15%	237	294	41	86	103	8	\$56,382	\$4,643	\$550	\$2,710,950
1994	71	4,550	5,893	4,976	917	84%	16%	285	485	66	57	75	16	\$60,315	\$12,870	\$800	\$4,714,400
1995	73	4,480	4,604	3,837	768	83%	17%	280	642	73	71	53	11	\$66,858	\$13,759	\$1,272	\$5,856,288
1996	69	4,180	3,386	2,322	1,064	69%	31%	202	890	57	74	41	14	\$81,474	\$28,757	\$2,000	\$6,772,000
1997	49	3,435	3,235	2,629	606	81%	19%	183	418	64	59	41	10	\$12,323	\$3,081	\$300	\$970,500
1998	50	2,030	2,057	1,954	103	95%	5%	110	26	35	7	56	15	\$16,749	\$4,414	\$300	\$617,100
1999	38	1,495	1,651	1,589	62	96%	4%	94	16	31	5	51	12	\$23,732	\$5,741	\$463	\$764,413
2000 <sup>c</sup>	37	1,735	1,370	1,290	80	94%	6%	57	23	31	10	42	8	\$20,806	\$4,000	\$500	\$685,000
2001	47	1,540	1,694	1,412	282	83%	17%	67	37	33	9	43	31	\$21,394	\$15,667	\$500	\$847,000
2002	46	1,860	1,677	1,274	403	76%	24%	37	50	30	14	42	29	\$21,233	\$14,393	\$500	\$838,500
2003	42	2,600	1,992	1,738	254	87%	13%	59	45	31	11	56	23	\$28,032	\$11,545	\$500	\$996,000
Average																	
1979 to 2003	57	2,530	2,563	2,023	540	79%	21%	151	356	44	61	48	12	\$36,412	\$8,549	\$798	\$2,096,404
5-Year																	
1999 to 2003	42	1,846	1,677	1,461	216	87%	13%	63	34	31	10	47	21	\$23,040	\$10,269	\$493	\$826,183
10-Year																	
1994 to 2003	52	2,791	2,756	2,302	454	85%	15%	137	263	45	32	50	17	\$35,292	\$11,423	\$714	\$2,306,120

<sup>a</sup> From 1979 to 1998 fishery participation was based on vessels making landings; 1999 to 2003 data is based on actual fishery participation.

<sup>b</sup> Exvessel values are based on inseason data.

<sup>c</sup> Beginning in 2000, an allocative harvest strategy was in effect.

Table 3. Alaska statewide average herring sac roe harvests for 1999 to 2003 and preliminary 2004 harvest projections.

Fishery Location	Average Harvest	
	1999-2003	2004 Harvest Projection
<b><i>Southeast</i></b>		
Kah Shakes	0	Closed
Sitka Sound	8,485	10,618
Seymour Canal	878	838
Hobart/Houghton	101	Closed
West Behm Canal	0	940
Lynn Canal	0	Closed
Total All Areas	9,464	12,396
<b><i>Prince William Sound</i></b>		
	0	Closed
<b><i>Cook Inlet</i></b>		
Kamishak District	0	Closed
Upper Cook Inlet	4	20
Total All Areas	4	20
<b><i>Kodiak</i></b>		
Purse Seine	1,461	1,925
Gillnet	216	625
Total Area	1,677	2,550
<b><i>Alaska Peninsula</i></b>		
North Peninsula	0	0
South Peninsula	0	0
Total Area	0	0
<b><i>Bristol Bay (Togiak)</i></b>		
Seine	14,563	17,658
Gill Net	5,705	7,568
Total Area	20,268	25,226
<b><i>AYK Area</i></b>		
Security Cove	498	1,940
Goodnews Bay	296	1,549
Cape Avinof	277	505
Nunivak Island	89	948
Nelson Island	925	817
Cape Romanzof	270	700
Norton Sound		
Gillnet	2,424	4,893
Beach Seine	16	544
Port Clarence	0	0
AYK Total	4,795	11,896
<b><i>Statewide Total Harvest</i></b>		
	36,208	52,088

Table 4. List of districts and management sections, guideline harvest levels (GHLs), closed sections, and district allocation percentages for the herring sac roe fishery, Kodiak Management Area, 2004.

Statistical Area	Management Section	2004 Guideline <u>Harvest Level</u> Tons	<u>Purse Seine</u> Tons	<u>Gillnet</u> Tons
<b><i>NORTH AFOGNAK DISTRICT</i></b>				
NA10	Shuyak Island	CLOSED	-	-
NA20	Delphin Bay	CLOSED	-	-
NA30	Perenosa Bay <sup>a</sup>	EXPLORATORY	EXPLORATORY	EXPLORATORY
NA40	Seal Bay	CLOSED	-	-
NA50	Tonki Bay <sup>a</sup>	EXPLORATORY	EXPLORATORY	EXPLORATORY
<b><i>WEST AFOGNAK DISTRICT</i></b>				
WA10	Raspberry Strait	CLOSED	-	-
WA20	Malina Bay	20	CLOSED	20
WA31	Paramanof Bay	250	250	CLOSED
WA32	Foul Bay	50	50	CLOSED
WA40	Blue Fox/Devil's Inlet <sup>a</sup>	EXPLORATORY	EXPLORATORY	EXPLORATORY
WA50	Offshore W. Afognak	CLOSED	-	-
<b><i>SOUTH AFOGNAK DISTRICT</i></b>				
SA10	Izhut Bay	10	CLOSED	10
SA20	Kitoi Bay	CLOSED	-	-
SA30	MacDonalds Lagoon	CLOSED	-	-
SA40	Danger Bay	70	CLOSED	70
SA50	Litnik	CLOSED	-	-
SA60	Duck Bay	CLOSED	-	-
<b><i>TOTAL ALL AFOGNAK DISTRICTS</i></b>		400	300	100
<b><i>DISTRICT ALLOCATION PERCENTAGE</i></b>			75.0%	25.0%
<b><i>UGANIK DISTRICT</i></b>				
UG10	Kupreanof	CLOSED	-	-
UG20	Viekoda	50	CLOSED	50
UG21	Terror Bay <sup>a</sup>	20	CLOSED	20
UG30	Village Islands	800	800	CLOSED
UG31	West Uganik Pass <sup>a</sup>	30	CLOSED	30
UG32	NE Arm Uganik	10	CLOSED	10
UG33	E. Arm Uganik	10	CLOSED	10
UG34	S. Arm Uganik	100	CLOSED	100
UG40	Offshore Uganik	CLOSED	-	-
<b><i>DISTRICT TOTAL</i></b>		1,020	800	220
<b><i>DISTRICT ALLOCATION PERCENTAGE</i></b>			78.4%	21.6%
<b><i>UYAK DISTRICT</i></b>				
UY10	Offshore Uyak	CLOSED	-	-
UY20	Harvester Island	CLOSED	-	-
UY30	Inner Uyak <sup>a</sup>	To Be Announced	To Be Announced	CLOSED
UY32	Browns Lagoon	CLOSED	-	-
UY31	Larsen Bay	CLOSED	-	-
UY40	Zachar Bay	15	CLOSED	15
UY50	Spiridon Bay <sup>a</sup>	15	CLOSED	15
<b><i>DISTRICT TOTAL</i></b>		30	CLOSED	30
<b><i>DISTRICT ALLOCATION PERCENTAGE</i></b>			0%	100%

-Continued-

Table 4. (page 2 of 3)

Statistical Area	Management Section	2004 Guideline		
		<u>Harvest Level</u> Tons	<u>Purse Seine</u> Tons	<u>Gillnet</u> Tons
<b>ALITAK DISTRICT</b>				
AL10	Outer Alitak	CLOSED	-	-
AL20	Inner Alitak	*Note: Sections AL20 and AL31 will be managed as one section, 75 ton GHL.		
AL21	Inner Deadman Bay	*Note: Sections AL21 and AL22 will be managed as one section, 20 ton GHL.		
AL22	Outer Deadman Bay	20	CLOSED	20
AL30	Sulua Bay	CLOSED	-	-
AL31	Portage Bay	75	75	CLOSED
AL40	Lower Olga/Moser	CLOSED	-	-
AL41	No. Upper Olga Bay <sup>a</sup>	EXPLORATORY	EXPLORATORY	EXPLORATORY
AL50	Upper Olga Bay	10	CLOSED	10
AL60	Geese/Twoheaded <sup>a</sup>	EXPLORATORY	EXPLORATORY	EXPLORATORY
<b>DISTRICT TOTAL</b>		105	75	30
<b>DISTRICT ALLOCATION PERCENTAGE</b>			71.4%	28.6%
<b>STURGEON/HALIBUT DISTRICT</b>				
SH10	Sturgeon/Halibut	CLOSED	CLOSED	CLOSED
<b>EASTSIDE DISTRICT</b>				
EA10	Kaiugnak a	EXPLORATORY	EXPLORATORY	EXPLORATORY
EA20	SW. Sitkalidak <sup>a</sup>	EXPLORATORY	EXPLORATORY	EXPLORATORY
EA21	Three Saints Bay	15	CLOSED	15
EA22	Newman Bay <sup>a</sup>	EXPLORATORY	EXPLORATORY	EXPLORATORY
EA23	W. Sitkalidak Strait	75	75	CLOSED
EA24	Barling Bay	75	75	CLOSED
EA30	E. Sitkalidak Strait <sup>a</sup>	75	CLOSED	75
EA31	Tanginak Anchorage <sup>a</sup>	10	CLOSED	10
EA40	Outer Sitkalidak	CLOSED	-	-
EA41	Boulder Bay	10	CLOSED	10
EA42	Shearwater Bay	25	CLOSED	25
EA43	Outer Kiliuda Bay	*Note: Sections EA43 and EA44 will be managed as one section, 300 t. GHL.		
EA44	Inner Kiliuda Bay	300	300	CLOSED
EA50	Outer Ugak Bay	250	250	CLOSED
EA51	Inner Ugak Bay	60	CLOSED	60
EA52	Pasagshak Bay	10	CLOSED	10
<b>DISTRICT TOTAL</b>		905	700	205
<b>DISTRICT ALLOCATION PERCENTAGE</b>			77.3%	22.7%
<b>NORTHEAST DISTRICT</b>				
NE10	Womens Bay	20	CLOSED	20
NE20	Kalsin Bay	CLOSED	-	-
NE30	Middle Bay	CLOSED	-	-
NE40	Inshore Chiniak	CLOSED	-	-
NE50	Offshore Chiniak	CLOSED	-	-
<b>DISTRICT TOTAL</b>		20	CLOSED	20
<b>DISTRICT ALLOCATION PERCENTAGE</b>			0%	100%

-Continued-

Table 4. (page 3 of 3)

Statistical Area	Management Section	2004 Guideline	<u>Purse Seine</u> Tons	<u>Gillnet</u> Tons
		<u>Harvest Level</u> Tons		
<b>INNER MARMOT DISTRICT</b>				
IM10	Monashka Bay	CLOSED	-	-
IM20	Anton Larsen Bay <sup>a</sup>	10	CLOSED	10
IM30	Sharatin Bay <sup>a</sup>	10	CLOSED	10
IM40	Kizhuyak Bay <sup>a</sup>	50	50	CLOSED
IM50	Spruce Island	CLOSED	-	-
<b>DISTRICT TOTAL</b>		70	50	20
<b>DISTRICT ALLOCATION PERCENTAGE</b>			71.4%	28.6%
<b>NORTH MAINLAND DISTRICT</b>				
NM10	Hallo Bay	CLOSED	-	-
NM20	Inner Kukak <sup>a</sup>	EXPLORATORY	EXPLORATORY	EXPLORATORY
NM30	Outer Kukak	CLOSED	-	-
NM40	Missak Bay	CLOSED	-	-
<b>MID MAINLAND DISTRICT</b>				
MM10	Inner Katmai <sup>a</sup>	EXPLORATORY	EXPLORATORY	EXPLORATORY
MM20	Outer Katmai	CLOSED	-	-
MM30	Alinchak <sup>a</sup>	EXPLORATORY	EXPLORATORY	EXPLORATORY
MM40	Puale Bay	EXPLORATORY	EXPLORATORY	EXPLORATORY
MM50	Portage Bay	EXPLORATORY	EXPLORATORY	EXPLORATORY
MM60	Outer Portage	EXPLORATORY	EXPLORATORY	EXPLORATORY
<b>SOUTH MAINLAND DISTRICT</b>				
SM10	Wide Bay	EXPLORATORY	EXPLORATORY	EXPLORATORY
SM20	Lower Shelikof	CLOSED	-	-
<b>MAINLAND DISTRICTS TOTAL</b>		0	0	0
<b>DISTRICT ALLOCATION PERCENTAGE</b>			0.0%	0.0%
<b>GRAND TOTAL</b>		2,550	1,925	625
<b>ALLOCATION PERCENTAGE ALL DISTRICTS</b>			75.5%	24.5%

<sup>a</sup> Sections that changed gear status from the 2003 season.

Table 5. Alaska Department of Fish and Game, Division of Commercial Fisheries management staff, Kodiak Management Area, 2004.

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<b>Office Staff:</b>	
Regional Supervisor	Denby Lloyd
Regional Management Finfish Supervisor	Jim McCullough
Area Management Biologist	Kevin Brennan
Assistant Area Management Biologist	Dennis Gretschi
Assistant Area Management Biologist	Jeff Wadle
Fishery Biologist	Paul Kuriscak
Fishery Technician	Joey Lindberg

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<b>Field Staff:</b>	
<b>R/V K-Hi-C:</b>	
Boat Officer	Tom Emerson
Assistant Area Management Biologist	Dennis Gretschi
<b>R/V Resolution:</b>	
Boat Officer	Dennis Cox
Assistant Area Management Biologist	Jeff Wadle
<b>Field Crews:</b>	
Fishery Technician	Morris Lambdin
Fishery Technician	Dave Waters
Fishery Technician	Chris Bond
Fishery Technician	Robin Overall

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ALASKA DEPARTMENT OF FISH AND GAME  
COMMERCIAL FISHERIES DIVISION

**KODIAK MANAGEMENT AREA HERRING STATISTICAL  
CHART**

This chart is a general guide for permit holders, tender operators, processors, and other industry personnel for illustrating the location of districts and sections used in the managing of the Kodiak Area herring fisheries. For the exact descriptions of the district and section boundaries consult the current Commercial Herring

State Water Boundaries

District Boundaries

Section Boundaries

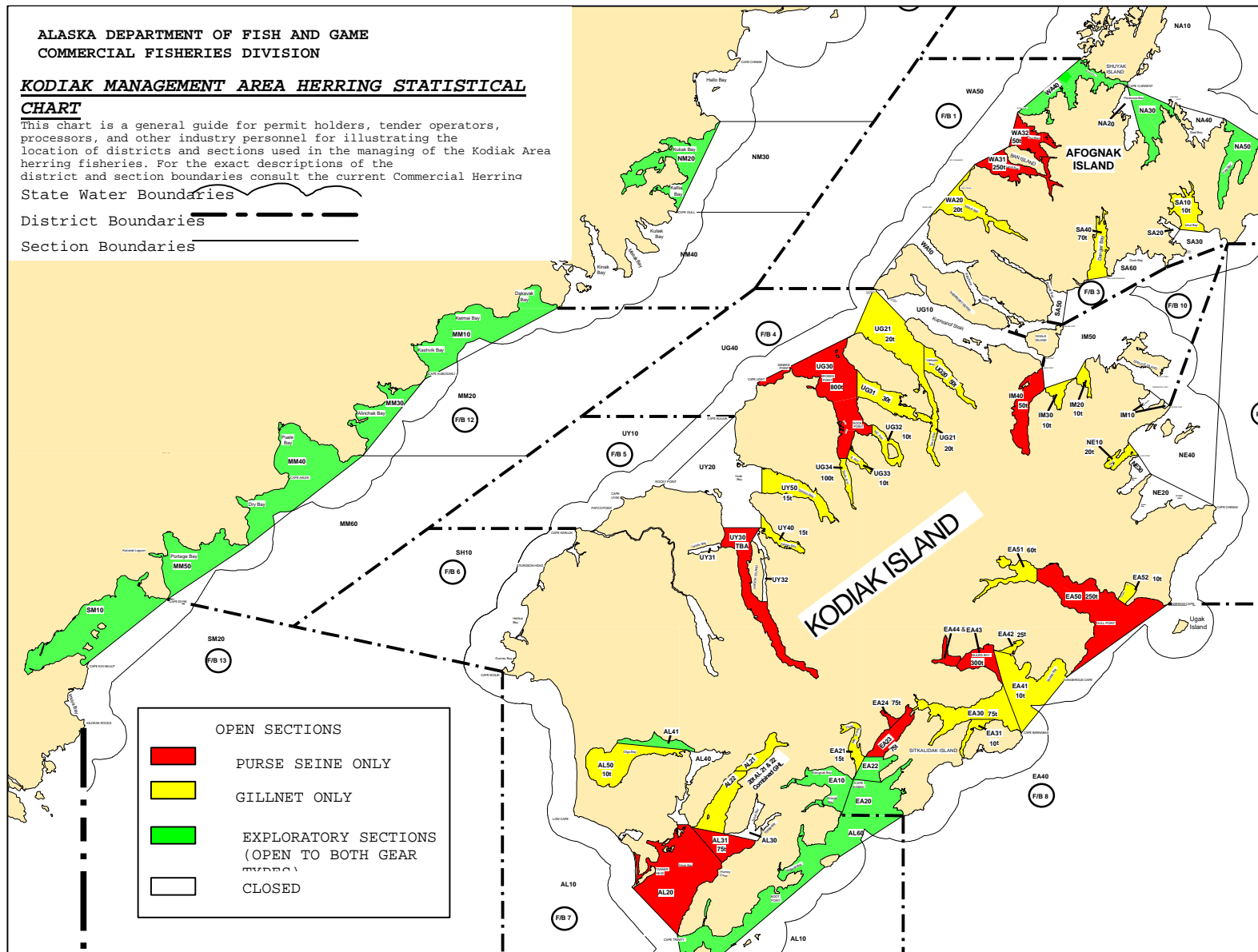


Figure 1. Map of the Kodiak Management Area illustrating the herring sac roe fishery districts and sections, open sections by gear type, exploratory sections, and closed sections for the 2004 season.



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